

AVS/Express Spatial Data Interface Release 1.1 Installation Guide



Installing Release 1.1 of the AVS/Express Spatial Data Interface (SDI) on your user workstation is a straightforward process. However, there are several prerequisites that you must meet before you install the SDI. This installation guide describes these prerequisites and then provides instructions for installing, configuring, and running the SDI.

Note: The typical SDI configuration includes a database server and a user workstation, with the database and spatial engine installed on the database server and AVS/Express and the SDI installed on the user workstation. However, the database and spatial engine can reside on the user workstation. The installation procedure is identical for the two configurations.

This document is also available on the Advanced Visual Systems Inc. Web site, www.avv.com. The Web version of this document will be revised as needed on a regular basis and may contain more up to date information than this printed version.

Prerequisites

SDI Release 1.1 is supported on the following platforms:

- ◆ Sun Solaris 2.5
- ◆ HP-UX 10.20
- ◆ IRIX 6.3 (32-bit only)
- ◆ Windows NT
- ◆ Windows 95

Before installing SDI Release 1.1, you must do the following:

- ◆ On the database server, install and configure one or both of the following spatial engines:
 - ◆ Spatial Database Engine (SDE), Version 3.0.1. The SDE is a product of Environmental Systems Research Institute, Inc. (ESRI).
 - ◆ Oracle Spatial Data Option (SDO), Version 7.3.3 or 8.0.4. The SDO is a product of Oracle Corporation.
- ◆ On the user workstation, install and configure AVS/Express, Release 4.0.

In general, you install the spatial engines and AVS/Express as described in the relevant documentation. The following sections provide some special installation notes.



SDE Installation Notes

ESRI'S Spatial Database Engine (SDE) is a spatial engine that works with a number of standard relational database management systems (see the SDE documentation for details). You must install both the SDE server and the SDE clients.

Installing the SDE Server

To install and configure the SDE server to be compatible with the SDI:

1. Install the desired database on the server according to the instructions in the relevant database documentation.

Note: If you are installing an Oracle database, and you plan to install both SDE and SDO, be sure to select **Spatial Data Option**, if so prompted, during the installation of Oracle.

2. Set up SDE Version 3.0.1 according to the instructions in the SDE documentation.
3. Test that the SDE is correctly installed by issuing the following command:

```
sdemon -o status
```

If installed correctly, the SDE responds as follows:

```
SDE Instance instance_name status on hostname at date
-----
Server Connection Mode: Accepting Connections
Active Server Processes: 0
```

Installing the SDE Client

To install the SDE client process on the client machines, simply install the appropriate SDE client libraries for the platform.

SDO Installation Notes

Oracle's Spatial Data Option is a spatial engine that is installed as part of, and works *only* with, an Oracle7 or Oracle8 database (see the Oracle documentation for details). You must install both the SDO server and SDO clients.

Installing the SDO Server

To install and configure the SDO server to be compatible with the SDI:

1. Install Oracle7 or Oracle8, including the SDO, on the server according to the instructions in the Oracle database documentation.

Be sure to select **Spatial Data Option**, if so prompted, during the installation.

2. Set up the SDO according to the instructions in the Oracle database documentation.

Oracle supplies a script named catmd.sql that performs the setup. For details, see the Oracle database documentation.

3. Test that the SDO is correctly installed by logging into Oracle via SQL*Plus as the mdsys/manager user and issuing the following command:

```
select table_name from user_tables;
```



If installed correctly, SDO responds similarly to the following:

```
TABLE_NAME  
MD$COL  
MD$DICTVER  
MD$DIM  
MD$EXC  
MD$LER  
MD$PTAB  
MD$PTS  
MD$TAB  
MD$VIEW
```

Installing the SDO Client

Installing the SDO client process on the client machines is slightly different depending on whether you are installing SDO Version 7.3.3 or 8.0.4.

- ◆ For SDO Version 7.3.3, run the standard (default) Oracle7 installation process on the machine, specifying the Spatial Data Option, Client only, and Application user options.
- ◆ For SDO Version 8.0.4, first run the standard (default) Oracle8 installation process on the machine, specifying the Client only and Application user options. Next, run a custom Oracle installation process, this time installing the Oracle Call Interface (OCI).

AVS/Express Installation Notes

The SDI requires AVS/Express Release 4.0. Install AVS/Express Release 4.0 on your user (client) workstation as documented in *Installing AVS/Express*.

Licensing Issues

If you are using SDE, note that the potential exists for a licensing conflict between SDE and AVS/Express. This is because both products use GLOBEtrouter Software, Inc.'s FLEXlm[®] license managing system. Within this system, SDE uses the LM_LICENSE_FILE environment variable to point to the location of the SDE license file. As a result, if you use the LM_LICENSE_FILE environment variable to point to the location of the AVS/Express license file, SDE cannot connect to its license daemon. (Use the tools available from SDE's Start Menu->Programs-> ESRI License Manager menu to verify correct operation of the ESRI license manager.)

If SDE is installed, *do not* use the LM_LICENSE_FILE environment variable to point to the location of the AVS/Express license file. Instead, put your AVS/Express license file in the default location and let FLEXlm find it there.

- ◆ On Windows-based machines, the default location is:
c:\flexlm\license.dat
- ◆ On UNIX-based machines, the default location is:
/usr/local/flexlm/licenses/license.dat

Oracle's license management system does not conflict with that of AVS/Express.



SDI Online Help

The SDI online help is installed as part of AVS/Express Release 4.0. For Windows users, it is installed automatically. UNIX users, however, must perform the following additional steps to install the online help:

1. Change your current directory as follows:

```
cd /cdrom_mount_point/xp343
```
2. Rerun the AVS/Express Release 4.0 installation program by issuing the following command:

```
install.xp
```
3. At the first prompt (Product), type HELP.
4. Finish the installation program, responding to the remaining prompts as appropriate.

Installing and Configuring the SDI

Once you satisfy all of the SDI prerequisites, you can install and configure the SDI. The default installation process installs a version of the SDI that is intended to run with both the SDE and the SDO installed. Alternatively, you can install the SDI and configure it to run with either the SDE only or the SDO only. This section includes a separate section for each installation and configuration process.

Installing and Configuring the SDI for SDE *and* SDO

Install and configure the SDI to run with both the SDE *and* the SDO as follows:

1. Insert the SDI installation CD into the CD drive on your machine.
2. Transfer the SDI installation directory and its contents to your machine. The transfer method depends on your machine type.
 - ◆ For Windows-based machines, use the setup program located in the \SDI\i386 directory. You can either click on the setup icon or run setup.exe. The setup program provides a standard InstallShield installation process.
 - ◆ For UNIX-based machines, simply run the script `/cdrom_mount_point/SDI/install.SDI`.
3. Set the SDI_ROOT environment variable to the SDI installation directory.
 - ◆ For Windows-based machines, use this command:

```
set SDI_ROOT=install_dir
```
 - ◆ For UNIX-based machines, use this command:

```
setenv SDI_ROOT install_dir
```



Installing and Configuring the SDI for SDE *Only*

Install and configure the SDI to run with the SDE *only* as follows:

1. Insert the SDI installation CD into the CD drive on your machine.
2. Transfer the SDI installation directory and its contents to your machine. The transfer method depends on your machine type.
 - ◆ For Windows-based machines, use the setup program located in the \SDI\i386 directory. You can either click on the setup icon or run setup.exe. The setup program provides a standard InstallShield installation process.
 - ◆ For UNIX-based machines, simply run the script `/cdrom_mount_point/SDI/install.SDI`.
3. In the file `SDI/sdiproj/sdi_xp/xp_sdi_config.hxx`, comment out the following line:


```
#define SDI_USE_SDO 1
```
4. In the setup file for your machine (`SDI/sdeutils/setup.bat` on Windows or `SDI/sdeutils/setup.csh` on UNIX), comment out the line that runs the SDO setup file.
 - ◆ For Windows-based machines, this line reads as follows:


```
call ./sdoutils/setup.bat
```
 - ◆ For UNIX-based machines, this line reads as follows:


```
source sdoutils/setup.csh
```
5. Rebuild the SDI project by sourcing the setup file and recompiling the project.
 - ◆ For Windows-based machines, use these commands:


```
cd %SDI_ROOT%
setup
nmake -f nt.mak
```
 - ◆ For UNIX-based machines, use these commands:


```
cd $SDI_ROOT
source setup.csh
make
```

Installing and Configuring the SDI for SDO *Only*

Install and configure the SDI to run with the SDO *only* as follows:

1. Insert the SDI installation CD into the CD drive on your machine.
2. Transfer the SDI installation directory and its contents to your machine. The transfer method depends on your machine type.
 - ◆ For Windows-based machines, use the setup program located in the \SDI\i386 directory. You can either click on the setup icon or run setup.exe. The setup program provides a standard InstallShield installation process.
 - ◆ For UNIX-based machines, simply run the script `/cdrom_mount_point/SDI/install.SDI`.
3. In the file `SDI/sdiproj/sdi_xp/xp_sdi_config.hxx`, comment out the following line:


```
#define SDI_USE_SDE 1
```



4. In the setup file for your machine (SDI/sdoutils/setup.bat on Windows or SDI/sdoutils/setup.csh on UNIX), do the following:

- a. Comment out the line that runs the SDE setup program.

—For Windows-based machines, this line reads as follows:

```
call ./sdeutils/setup.bat
```

—For UNIX-based machines, this line reads as follows:

```
source sdeutils/setup.csh
```

- b. (SDO Version 8.0.4) Relink with the Oracle8 database client software by modifying the definitions of various ORACLE environment variables as follows:

—For Windows-based machines, modify the definition of ORACLE_INC by locating the three occurrences of the string `oci73` and replace each occurrence with the string `oci80`.

—For Sun Solaris 2.5 machines *only*, modify the definition of ORACLE_LIBS to read as follows:

```
setenv ORACLE_LIBS "-lclntsh -lnetv2 -lnttcp -lnetwork  
-lclient -lgeneric -lcommon -lmm -lepc -lncr -lcore4  
-lnlsrtl3 -laio"
```

—For HP-UX 10.20 machines *only*, modify the definition of ORACLE_LIBS to read as follows:

```
setenv ORACLE_LIBS "-lnetv2 -lnttcp -lnetwork -lclient  
-lgeneric -lcommon -lmm -lncr -lcore4 -lnlsrtl3  
-lminiserver -lclntsh -lcma"
```

—For IRIX 6.3 machines *only*, modify the definition of ORACLE_LIBS to read as follows:

```
setenv ORACLE_LIBS "-lclient -lnetv2 -lnetwork -lcore4  
-lnlsrtl3 -lgeneric -lclient -lmm -lcommon -lepc -lncr  
-lcore4 -lnlsrtl3 -lnetwork -lclntsh"
```

—For *all* UNIX-based machines, ensure that ORACLE_HOME is set to where the Oracle client software libraries reside and that load and shared library paths are set accordingly in the user environment. To avoid runtime symbol violations, link statically by renaming the `libsdi` and `libsdi_xp` shared libraries (located in the `sdi/lib/machine_type` directory) and then performing a static relink by issuing the following command from the `SDI_ROOT/sdiproj` directory:

```
make -f express.mk relink
```

5. Rebuild the SDI project by sourcing the setup file and recompiling the project.

- ◆ On a Windows machine, use these commands:

```
cd %SDI_ROOT%  
setup  
nmake -f nt.mak
```

- ◆ On a UNIX machine, use these commands:

```
cd $SDI_ROOT  
source setup.csh  
make
```



Running the SDI

You can run the SDI only from the `sdiproj` subdirectory of the SDI installation directory. To do this, issue the following commands:

```
cd sdiproj
bin/machine_type/express
```

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